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EXAMINER	
EHICHIOYA, FRED I	
ART UNIT	PAPER NUMBER
2156	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/608,868	RUDOLPH ET AL.	
	Examiner	Art Unit	
	FRED I. EHICHIOYA	2156	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *27 June 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 35* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 35* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *05/31/05 & 10/15/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to communication filed June 27, 2003.

2. Claims 1 – 35 are pending.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 16 - 27 are rejected under 35 U.S.C. 101 because:

Claim 16 is directed to a method. These claims are directed to a non-statutory process. This method is not tied to a statutory class such as a particular apparatus or transformed underlying subject matter such as article or material to a different state or thing; this method is not a patent eligible process under 35 USC § 101 and therefore non-statutory (MPEP 2106.01 [R-5] (I)).

Regarding claims 17 - 27, they depend from independent claim 16, recite computing steps, merely descriptive and lack the necessary physical articles or objects to constitute a machine or a manufacture within the meaning of 35 USC § 101 and therefore non-statutory.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1 – 4, 6 - 7 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pub. No. 2002/0038374 issued to Gupta et al (Hereinafter "Gupta") in view of US Patent No. 5,963,943 issued to Cummins et al (Hereinafter "Cummins").

Regarding claim 1, Gupta discloses a multimedia processing system comprising:

a media processor component configured to process received media data (see Fig. 2 step 21 and Fig. 4 step 140);

a media session component coupled to the media processor component, the media session component configured to determine a timeline for events to occur for performing media processing (see page 2, [0028]: ***"In this discussion, the term "composite media stream" describes synchronized streaming data that represents a segment of multimedia content. The composite media stream has a timeline that establishes the speed at which the content is rendered"***).

Gupta does not explicitly disclose topology loader as claimed.

Cummins discloses a topology loader component coupled to the media session component, the topology loader component configured to load a topology that describes

a flow for the received media data to enable processing via an extensible symbolic abstraction of media objects, the topology loader configured to ensure that events described in the topology occur (see column 12, lines 56 – 62).

It would have been obvious to one of ordinary skill at the data processing art at the time of present invention to combined the cited references because Cummins' teaching of topology loader would have enabled Gupter's system to retrieve topology data from a topology data file and save it into the open database management system. The motivation is that data stored in open database is easily accessible and retrievable via any SQL interface.

Regarding claim 2, Gupta discloses the multimedia processing system of claim 1, further comprising:

a media sink component coupled to the media processor component, the media sink component configured to determine a media stream for output from the multimedia processing system (see page 1, [0004); and

a media source component coupled to the media processor component, the media source component configured to supply media data for processing (see page 3, [0046]: ***"In response to a request for a composite media stream, server 10 streams the requested composite media stream to the network client in accordance with some known format such as ASF. The client renders the data streams to produce the multimedia content"***).

Regarding claim 3, Cummins discloses the multimedia processing system of claim 1 wherein the topology is configured to symbolically provide data flow information, the topology independent of maintaining a streaming state of control information (see column 3, lines 6 – 7).

Regarding claim 4, Cummins discloses the multimedia processing system of claim 3 wherein the topology being independent of maintaining the stream state of control information enables dynamic adding and removing multimedia components from the topology (see column 9, lines 49 – 52 and column 11, lines 62 – 64).

Regarding claim 6, Cummins discloses the multimedia processing system of claim 1 wherein the topology includes a segment topology node configured to provide an encapsulated topology that can be inserted and deleted from a topology, the segment topology node including one or more inputs and one or more outputs and one or more nodes (see column 9, lines 49 – 52 and column 11, lines 62 – 64).

Regarding claim 7, Cummins discloses the multimedia processing system of claim 1 wherein the topology includes a tee node configured to provide a primary and secondary output stream therefrom, the tee node configured to respond to logic dictating a discard ability of data output from one or more of the primary and the secondary output stream (see column 11, lines 62 – 64).

Regarding claim 10, Cummins discloses the multimedia processing system of claim 1 wherein the topology can be fully specified and independent of instantiated media objects (see column 5, lines 40 – 43).

5. Claims 8 – 9, 11 – 12 and 14 - 15 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Gupta in views of Cummins and further in view of NPL: "Topologies" – Computational Messaging for Multicomputers issued to Schwan et al (Hereinafter "Schwan").

Regarding claim 8, Gupta and Cummins disclose the claimed subject matter as discussed in claim 1. Gupta or Cummins does not explicitly disclose demultiplexer as claimed.

Schwan discloses wherein the topology includes a demultiplexer node configured to split media into different types of media from a combined input (see Fig. 3).

It would have been obvious to one of ordinary skill at the data processing art at the time of present invention to combined the cited references because Schwan's teaching of Demultiplexer would have enabled Gupter and Cummins' system to schedules the execution of the topologies' service routines, and also schedules the topologies' outgoing packets for output across the node's physical output channels as suggested by Schwan on page 588.

Regarding claim 9, Schwan discloses the multimedia processing system of claim 8 wherein the combined input is an interleaved audio and video input, the demultiplexer node configured to split the audio from the video and provide at least an audio output and a video output (see page 582, column 1, paragraph 3: ***"task/queue model is a generalization of the notion of work sharing. Here, ... Sample tasks ate subtrees of the search tree in branch and bound algorithms18, 15, sublists of a List to be sorted"***).

Regarding claim 11, Schwan discloses the multimedia processing system of claim 10 wherein the topology being fully specified and independent of instantiated media objects enables the topology to remain an abstraction and enables the topology to be shared and instantiated multiple times (see page 583 column 1 section 3.1: ***"topology structure - its logical communication structure, including attributes that determine data flow within this structure, and services implementing ICO or I10 actions with the structure's nodes; services are executed when certain application-dependent or system-dependent"***).

Regarding claim 12, Schwan discloses the multimedia processing system of claim 1 wherein the topology is a fully loaded topology wherein connections between a plurality of nodes in the topology are guaranteed, each media type required by the topology is negotiated and each media object in the topology is instantiated (see page 583 column 2 paragraph 4: ***"Each service in a vertex must be associated with a specific service routine (which is loaded at system initialization time). However, a single service***

routine may be associated with multiple topologies, where each topology uses a different 'service-id' for the routine").

Regarding claim 14, Schwan discloses the multimedia processing system of claim 1 wherein the topology includes a plurality of nodes, each node including one or more of the media objects, each of the plurality of nodes is identifiable via a unique identifier (see page 583 column 1 section 3.1: ***"topology structure - its logical communication structure, including attributes that determine data flow within this structure, and services implementing ICO or I10 actions with the structure's nodes; services are executed when certain application-dependent or system-dependent"***).

Regarding claim 15, Schwan discloses the multimedia processing system of claim 14 wherein the unique identifier enables sharing and reusing the nodes in a plurality of topologies (see page 588 column 2 paragraph 2: ***"These tables map topology identifiers and service identifiers found in topology packets to the topologies' vertices and service routines resident on the node"***).

6. Claims 5 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gupta in view of Cummins and further in view of US Pub. No. 2003/0133545 issued to Jean-Wilshire Rosset (Hereinafter "Rosset").

Regarding claim 5, Gupta and Cummins disclose the claimed subject matter as discussed in claim 1. Gupta or Cummins does not explicitly disclose instantiation requirement as claimed.

Rosset discloses wherein the topology is the extensible symbolic abstraction of media objects, the media objects independent of an instantiation requirement (see page 4, [0040]: ***"In response to an incoming call from the communication device 108 an instance of the voice application 114 is instantiated. The voice application 114 is arranged to take the caller through a series of voice menus and to provide an automated telephony service. If, for example, the caller is required to utter a reply to an input action in response to a recently output voice menu, the application 114 will instruct the media group provider 116 to enter a record mode of operation in which the data stream, representing uncompressed audio from the communication device 108"***).

It would have been obvious to one of ordinary skill at the data processing art at the time of present invention to combined the cited references because Rosset's teaching of instantiation would have enabled Gupter and Cummins' system to define an instance of an object for processing.

Regarding claim 13, Rosset discloses the multimedia processing system of claim 1 wherein the media objects are instantiated when the topology is resolved (see page 4, [0040]: ***"In response to an incoming call from the communication device 108 an instance of the voice application 114 is instantiated"***).

7. Claims 16 - 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schwan in view of Rosset.

Regarding claims 16 and 28, Schwan discloses a method for creating a data structure that defines a topology that identifies a flow of multimedia data through a collection of one or more media objects forming one or more nodes, the method comprising (see page 581, column 1, paragraphs 3 - 4: ***"Topologies are a necessary …. Typically, domains are defined by data structures that model physical systems, as in applications that model specific dynamic systems"***):

identifying a connection between one or more nodes (see page 581, column 1, paragraph 2: ***"Topologies are analogous to other operating system constructs developed for the implementation of distributed computations, such as fetch-and-add instructions in interconnection network-based, shared memory machnes[6,7], However, topologies are also able to represent complex communication structures spanning many application processes and processors implemented by a topology"***).

Schwan does not explicitly disclose instantiation as claimed.

Rosset discloses abstracting the connection between the nodes to enable the topology to be fully or partially specified independent of instantiation of the media objects (see page 4, [0040]: ***"In response to an incoming call from the communication device 108 an instance of the voice application 114 is instantiated. The voice application 114 is arranged to take the caller through a series of voice menus and to provide an automated telephony service. If, for example, the caller is required to utter a reply to an input action in response to a recently output voice menu, the application 114 will instruct the media group provider 116 to enter a record mode of operation in which the data stream, representing uncompressed audio from the communication device 108"***).

It would have been obvious to one of ordinary skill at the data processing art at the time of present invention to combine the cited references because Rosset's teaching of instantiation would have enabled Schwan's system to define an instance of an object for processing.

Regarding claims 17 and 29, Schwan discloses wherein the abstracting enables a delay between negotiating one or more media types for the topology and loading the media objects (see page 582, column 1 paragraph 1: ***"This entails the sending of a request seeking work to loaded processes, which may accept or reject it based on local, application-dependent information"***).

Regarding claims 18 and 30, Schwan discloses wherein the topology includes a segment topology node configured to provide an encapsulated topology that can be inserted and deleted from the topology, the segment topology node including one or more inputs and one or more outputs (see page 583, column 2 paragraph 2: ***"Each vertex contains information about its execution state, storage for intermediate data, and services represented as executable code segments" – services are interpreted as insert, delete etc.***).

Regarding claims 19 and 31, Schwan discloses wherein the topology includes a tee node configured to provide a primary and secondary output stream therefrom, the tee node configured to respond to logic dictating a discardability of data output from one or more of the primary and the secondary output stream (see page 583, column 2 paragraph 2: ***"An edge in a topology defines a uni-directional, logical communication path between two vertices. Edges provide a 'link-level' communication protocol that guarantees the correct sequencing and reliable delivery of single, variable size packets. Flow control for multiple packets or automatic buffering of multiple packets are not performed at the 'link-level'; such actions are often application-dependent and must, therefore, be performed by services"***).

Regarding claims 20 and 32, Schwan discloses wherein the topology includes a demultiplexer node configured to split media into different types of media from a combined input (see Fig. 3).

Regarding claims 21 and 33, Schwan discloses wherein the combined input is an interleaved audio and video input, the demultiplexer node configured to split the audio from the video and provide at least an audio output and a video output (see page 582, column 1, paragraph 3: ***"task/queue model is a generalization of the notion of work sharing. Here, … Sample tasks are subtrees of the search tree in branch and bound algorithms18, 15, sublists of a List to be sorted"***).

Regarding claims 22 and 34, Schwan discloses wherein each node is identifiable via a unique identifier (see page 588 column 2 paragraph 2: ***"These tables map topology identifiers and service identifiers found in topology packets to the topologies' vertices and service routines resident on the node"***).

Regarding claims 23 and 35, Schwan discloses wherein the topology is operable via one or more user interfaces allowing a user to pre-specify which media object to use prior to the topology being resolved or used by a media processor (see page 592 column 1 paragraph 2: ***"A more suitable communications interface would be provided by a communications coprocessor s (as available in the comic cubes constructed at Caltech) that can directly execute the required services"***).

Regarding claim 24, Schwan discloses the method of claim 23 wherein the user interface enables a user to set static and dynamic properties for the media objects (see page 587 section 4.2.3: ***"All computations at the leaf level of the tree (the 'searcher'***

processes) proceed by expansion of nodes of a dynamically constructed, distributed search tree") via a timeline source (see page 591 column 2 paragraph 1: *"This is demonstrated by the measurements below, in which the best and worst times of 1, 2, 3, 4, 5, 10, and 100 iterations are reported"*).

Regarding claim 25, Rosset discloses the method of claim 23 wherein the user interface enables a user to set properties on a proxy object, the proxy object being created, loaded with properties, and configured to follow through the topology and processed according to properties set on the media object associated with identified frames (see page 2,[0026]).

Regarding claim 26, Schwan discloses the method of claim 16 wherein the topology is identified by one or more topology descriptors enabling interaction between a user and the topology (see page 582, Abstract: *"In addition, with each topology may be associated user-defined services, which may perform computations for communications traversing the topology"*).

Regarding claim 27, Rosset discloses the method of claim 26 wherein the topology descriptor identifies a collection of topology stream descriptors, each topology stream descriptor identifying a media stream (see page 2, [0018]: *"the method comprising streaming the input data, using a streaming communication protocol, to at least*

one of the plurality of data processing engines using a network identifier corresponding to an interface of the at least one data processing engine").

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to FRED I. EHICHIOYA whose telephone number is (571)272-4034. The examiner can normally be reached on M - F 8:00 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pierre M. Vital can be reached on 571-272-4215. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Fred I. Ehichioya/
Primary Examiner, Art Unit 2156

January 30, 2010